

The opinion in support of the decision being entered today was *not* written for publication and is *not* binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* JOHN A. REEVE

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Appeal 2006-2802  
Application 10/640,367  
Technology Center 1700

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Decided: August 25, 2006

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Before KIMLIN, TIMM, and FRANKLIN, *Administrative Patent Judges*.  
KIMLIN, *Administrative Patent Judge*.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 1-6 and 9-54. Claim 1 is illustrative:

1. A method of treating a solid substrate, the method comprising:
  - (I) providing a solid substrate;
  - (II) spraying the solid substrate with an aqueous solution of at least one material capable of reacting at or near the solid substrate surface selected from a group consisting of (i) reactive silanes, (ii) reactive siloxanes, (iii) hydrolysis products of (i), (iv) hydrolysis products of (ii), and

(v), combinations of any of (i), (ii), (iii), and (iv), and essentially, immediately thereafter,

- (III) spraying the solid substrate from (II) with a silicon-containing material capable of reacting at or near the solid substrate surface selected from the group consisting of:
- a. materials containing multi-silanol groups,
  - b. siliconates,
  - c. silicates, and,
  - d. any combinations of a., b., and c.

The Examiner relies upon the following references as evidence:

Gosset	US 4,632,848	Dec. 30, 1986
Lohmer	US 2002/0048679 A1	Apr. 25, 2002

Appellant's claimed invention is directed to a method of treating a solid substrate which comprises spraying the substrate with an aqueous solution of at least one of (1) reactive silanes, (2) reactive siloxanes, and hydrolysis products of the silanes and siloxanes, and thereafter spraying the treated substrate with a silicon-containing material, such as siliconates and silicates. The treatment provides a protective coating to the substrate.

Appealed claims 1-3, 10-34, 36-38, 40-41, 43-45, 47-48, 50-52 and 54 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Lohmer in view of Gosset.<sup>1</sup>

Appellant has not presented separate arguments with respect to any particular claim on appeal. Accordingly, all the claims rejected under 35 U.S.C. § 103 stand or fall together with claim 1.

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<sup>1</sup> The Examiner has withdrawn the rejection of claims 4-6, 9, 20, 26 and 32 under the judicially created doctrine of obviousness-type double patenting.

We have thoroughly reviewed each of Appellant's arguments for patentability. However, we concur with the Examiner that the claimed subject matter would have been obvious to one of ordinary skill in the art within the meaning of Section 103 in view of the applied prior art. Accordingly, we will sustain the Examiner's rejections for essentially those reasons expressed in the Answer.

There is no dispute that Lohmer, like Appellant, discloses a method of treating a solid substrate which comprises first treating the substrate with a reactive silane and then coating the treated substrate with a hydrophobic compound for the purpose of effecting water-repellency. As recognized by the Examiner, Lohmer does not expressly teach that the hydrophobic compound is one of the recited compounds, e.g., a silicate. However, Lohmer does teach that the hydrophobic compound can be one which forms ionic, absorptive, and/or covalent bonds with the silane treated substrate, such as those compounds which "contain a functional group such as a carboxylate group by, which the bond to the silane derivative is developed" ([paragraph 0054]).

Gosset, on the other hand, evidences that it was known in the art to render a substrate water-repellant by treating it with an aqueous solution comprising a siliconate or an ammonium salt of a copolymer with a carboxyl group.

Accordingly, based on the collective teachings of Lohmer and Gosset, we agree with the Examiner that one of ordinary skill in the art would have found it obvious to select the claimed siliconates as suitable hydrophobic compounds in the process of Lohmer, with the reasonable expectation that the siliconates would enhance the water-repellency of the Lohmer coating. Also, we concur with the Examiner that

Gosset suggests the equivalency of siliconates and carboxylate-group containing polymers as water-repelling agents, thereby further suggesting that siliconates would have been selected as hydrophobic compounds which contain the requisite functional group, such as a carboxylate group, in the process of Lohmer.

The sole argument with respect to the Section 103 rejection advanced by Appellant is that Gosset teaches an entire coating material which contains the siliconate, and, therefore, “why would one skilled in the art, having the Lohmer, et al patent in hand, be directed to segregate the potassium silicate [sic, siliconate] of Gosset, et al and apply it as a second coating to the treated substrate?” (Br. 5, third paragraph). However, this argument misses the thrust of the Examiner’s rejection. The Examiner does not propose segregating the treating composition of Gosset to use only one of its components but, rather, it is the Examiner’s position that Gosset evidences that siliconates and polymers containing carboxylate functional groups were known in the art as water-repelling agents that would be suitable for the Lohmer process. On the other hand, Appellant has proffered no reason why one of ordinary skill in the art would have been dissuaded from selecting a siliconate as a suitable hydrophobic material in the process of Lohmer.

As a final point, we note that Appellant bases no argument upon objective evidence of nonobviousness, such as unexpected results, which would serve to rebut the prima facie case of obviousness established by the Examiner.

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In conclusion, based on the foregoing and the reasons well-stated by the Examiner, the Examiner's decision rejecting the appealed claims is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a).

AFFIRMED

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